Current ENERGY STAR Multifamily High Rise Policy Record

How to Use This Document

EPA regularly receives partner questions and comments regarding various aspects of the program documents. This document is a record of the issues that have been received since the release of the program documents. These issues are either pending resolution by EPA or have been resolved, sometimes resulting in modifications that will be incorporated into the next revision of the program documents. The primary purpose of this document is to allow all partners to have equal access to the latest policy issues and resolutions.

EPA intends to formally incorporate any policy modifications into the next revision of the program documents. Partners may, at their discretion, use the determinations in this document immediately, in advance of the formal implementation dates. If they do so, they should be sure to include a copy of the policy record with their submittals. Should the need arise, this will allow partners to demonstrate that they acted with the best information available.

Definitions

Each issue listed here is classified as a Change, Clarification, Refinement, Comment, or as an Issue Under Review. These are defined as follows:

- *Change* – The addition, deletion, or modification of a program requirement. A change will typically result from a partner question or feedback indicating that EPA's original intent is not being met or due to changes in relevant standards (e.g., ENERGY STAR labeled product requirements, NAECA standards, ASHRAE 90.1). A change is the most significant type of edit for partners because it is likely to change the way that partners comply with the program.

- *Clarification* – The clarification of a program requirement, typically resulting from a partner question indicating confusion or ambiguity. Clarifications are not intended to significantly change the scope of the program guidelines, but rather to clarify the original intent of the requirement. A clarification is secondary in importance to a change; it should not significantly alter the way that most partners comply with the program.

- *Refinement* – A minor revision, such as an improved choice of words, a grammatical correction, or a correction to a typographical error. A refinement is the least important type of edit; it should have no impact on the way that partners comply with the program.

- *Comment* – A comment provided by EPA in response to a question, which results in no change to the program documents. This may occur, for example, if the question can be answered by referring to already established policy. Aside from the partner asking the question, such comments will typically have no impact on the way that partners comply with the program.

- *Issue Under Review* – An issue that has been submitted and that EPA is still evaluating. Once EPA has evaluated the issue, it will offer a resolution and reclassify the issue using one of the four categories above.

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ID	Log Date	Program Document	Classification	Issue/Resolution
00001	12/21/2011 Updated 08/21/2013 11/15/2014 & 8/31/2016	Performance Path Prescriptive Path T&V Worksheets	Change	**Heating and Cooling Distribution – Total Duct Leakage Limits Prerequisite**
				Issue: Total duct leakage testing thresholds have changed in the Certified Homes program in Revision 05, 07 and 08. Will they also change in MFHR?
				Response/Resolution: Total duct leakage testing thresholds were initially adopted from the ENERGY STAR Certified Homes Program, Version 3, Revision 02. These thresholds were increased in ESv3 Revision 05, and the MFHR program will allow the use of the new total duct leakage allowances (which increased from 6 CFM to 8 CFM per 100 ft^2). This was adopted in Revision 01 of the MFHR Program. ESv3 Revision 07 added an alternative testing option at rough-in, with a reduced allowance of 4 CFM per 100 ft^2. This was formally adopted in Revision 02 of the MFHR Program. The thresholds were increased again in Revision 08, for systems serving small homes and for systems with dedicated returns, allowing two additional options: ≤ 40 CFM (total) at rough-in or ≤ 80 CFM (total) at final. MFHR projects are allowed to use these allowances, and this will be incorporated into the next revision of the MFHR program requirements. In general, with pre-approval, all applicable changes in the ENERGY STAR Certified Homes program can be used in the ENERGY STAR MFHR program. This is now specified in ID 00058.
00002	12/21/2011	Performance Path Prescriptive Path T&V Protocols T&V Worksheets	Change	**Domestic hot water storage temperature**
				Issue: Can DHW storage temperatures be set at 130F or 140F to prevent Legionnaire's disease?
				Response/Resolution: The original prerequisite stated that "the temperature of the stored DHW shall be just sufficient to deliver DHW to apartments within a temperature range of 120-125F." The intent was to reduce potential for scalding as well as energy used to heat water. The prerequisite was modified in Revision 01 to read: "the temperature setting of in-unit storage water heaters must not exceed 140F. For both in-unit and central DHW systems, temperatures measured at faucets and showerheads must not exceed 125F." If setting in-unit storage water heaters to 140F, this may require a mixing valve to prevent scalding.

ID	Log Date	Program Document	Classification	Issue/Resolution
00003	1/21/2012	Performance Path Prescriptive Path T&V Worksheets	Change	**Pipes located in Garages**
				Issue: If piping cannot be re-located into conditioned space, is heat tape permitted to prevent the pipes from freezing? What if they are located in other unconditioned spaces (cellars or crawlspaces?) Does this prerequisite still apply?
				Response/Resolution: The intention of this prerequisite should have been applied to all unconditioned spaces and not just limited to garages. This will be adopted in Version 2. If pipes are located in garages (or unconditioned spaces), heat tape is permitted, but only in the Performance Path, where the energy penalty associated with the electricity consumption can be modeled. If selecting this alternative, heat tape that is activated based on pipe wall temperature rather than air temperature is required. The heat tape thermostat set point must be no higher than 40°F and the set point shall be confirmed by a field inspection. This was formally adopted in Revision 01 of the MFHR Program. Also see ID 00065.
00035	7/17/2012	Performance Path Prescriptive Path Simulation Guidelines	Change	**Calculating area illuminated by in-unit hard-wired fixtures**
				Issue: In certain rooms within a dwelling unit, a hard-wired fixture is installed, that is not intended to illuminate the entire space, but just a portion, assuming that the occupant will supplement with plug-in or receptacle lighting. How do we calculate the area illuminated by the installed fixture?
				Response/Resolution: In Version 1.0, hardwired fixtures in rooms, such as bedrooms and living rooms, that may be supplemented by lighting that is connected to receptacles, were to provide illumination at a rate of no more than 2 ft^2 per Watt. This was increased to 3 ft^2 per Watt. This change was formally adopted in Revision 01 of the MFHR Program.
00047	08/21/2013 Updated 08/31/2016	Performance Path Prescriptive Path	Change	**ENERGY STAR certified lighting prerequisite**
				Issue: In lieu of ENERGY STAR certified lighting, can high-efficacy lighting, like CFLs or LEDs, be used to meet the ENERGY STAR prerequisite?
				Response/Resolution: Yes, as an alternative to 80% of installed light fixtures being ENERGY STAR certified or having ENERGY STAR certified lamps, 100% of installed light fixtures may have high-efficacy lamps installed instead. The calculation is done separately in three areas (apartments, common space and exterior) and the alternative may be used in any or all of the three areas. High-efficacy is defined by 2012 IECC. According to the 2012 IECC definition of "high-efficacy", while "compact fluorescent lamps" and "T-8 or smaller diameter linear fluorescent lamps" meet this definition, LEDs were not explicitly mentioned. They do qualify if they meet the lumens per Watt requirements, listed in the definition. Lighting in range hoods are included in this prerequisite, but can be excluded from lighting power density calculations. This change was formally adopted in Revision 02 of the MFHR Program.

ID	Log Date	Program Document	Classification	Issue/Resolution
00048	08/21/2013 Updated 8/31/2015	Performance Path Prescriptive Path	Change	**Heating, Cooling and Service Hot Water Pipe Insulation Thicknesses**
				Issue: The prerequisite for pipe insulation thickness is not consistent with ASHRAE 90.1-2010. Is that intentional?
				Response/Resolution: In the original prerequisite (Revision 01), 1" of insulation was required on all piping for heating, cooling, and service hot water systems, based on ASHRAE 189.1-2009, Table C-11. Per Table C-11, 1.5" insulation was required for pipes 1.5" in diameter or greater. In Revision 02, the prerequisite was rewritten to instead align with ASHRAE 90.1-2010/2013. This decreased the insulation required for cooling system insulation but maintained the same thickness for heating and service hot water pipe insulation. The footnote related to domestic hot water piping should have been rewritten to also require 1.5" of insulation for pipes 1.5" in diameter or greater. This will be corrected in Revision 04. Until then, 1" insulation is acceptable for domestic hot water piping exactly 1.5" in diameter. While the insulation thickness is established by ENERGY STAR, if the pipe is not required to be insulated by ASHRAE Section 7.4.3, then the prerequisite does not apply. Also see ID 00059.
00049	08/21/2013 Updated 12/15/2017	Performance Path Prescriptive Path T&V Protocols	Change	**Duct Leakage Testing of Central Exhaust systems**
				Issue: When calculating the duct leakage allowance for central exhaust risers, how do you account for floors with more than one register or no register at all? Are the horizontal takeoffs/branches included in the test?
				Response/Resolution: Central exhaust systems that serve one or more apartments must be tested for duct leakage, where the original maximum leakage allowance for the Performance Path was calculated as 10 CFM per floor per shaft, based on the assumption that each shaft served one register per floor. In the Performance Path, this was revised to 5 CFM per register per shaft plus 5 CFM per floor per shaft to account for other configurations. In the Prescriptive Path, this was revised to 2.5 CFM per register per shaft plus 2.5 CFM per floor per shaft to account for other configurations. This change was formally adopted in Revision 02 of the MFHR Program. As the current metric does not provide additional leakage allowance for configurations with greater horizontal duct length, the leakage test can be limited to the vertical risers, but the 'per register' leakage allowances above are then reduced to 0 CFM. The horizontal take offs and branches must still be sealed and visually inspected. See ID 00073 for sampling protocols.

ID	Log Date	Program Document	Classification	Issue/Resolution
00050	08/21/2013 Updated 2/18/2014	Prescriptive Path	Change	**Gas-Fired PTACs**
				Issue: Using Table 1 of the Prescriptive Path, what heating efficiency applies to a gas-fired PTAC?
				Response/Resolution: Since gas-fired PTACs are not explicitly called out in Table 1, they shall meet the same requirements for "Warm-Air Furnaces". A footnote was added for certain climate zones where gas-fired PTACs are simply not available at those prescribed efficiencies, and reduced efficiencies are offered when combined with additional requirements for compartmentalization, low-flow fixtures and lighting power densities. Certain gas boilers are also offered reduced efficiencies if meeting these additional requirements. The reduced showerhead flow-rate (≤1.5 gpm) is still per stall.
00056	07/18/2014 Updated 08/31/2015 02/14/2017 & 12/15/2017	Performance Path	Change	**Performance Target in States that have adopted 2012 IECC (ASHRAE 90.1-2010) or 2015 IECC (ASHRAE 90.1-2013)**
				Issue: Similar to Version 3.1 for ENERGY STAR Certified Homes in states with more advanced codes than 2009 IECC, will ENERGY STAR MFHR develop a new version for those states?
				Response/Resolution: A new version has not yet been developed. In the interim, projects in states that have adopted 2012 IECC will be required to meet a modified Performance Target of 15% over ASHRAE 90.1-2010 or 20% over ASHRAE 90.1-2007, following Appendix G for the Standard selected. All other ENERGY STAR requirements will remain the same. Similarly, for projects in states that have adopted 2015 IECC, they will be required to meet a modified Performance Target of 15% over ASHRAE 90.1-2013, or alternatively, 20% over ASHRAE 90.1-2010 or 25% over 90.1-2007, following Appendix G for the Standard selected. If choosing 15% over 90.1-2013, projects would be permitted to use Appendix G from either 2010 or 2013, for Project Applications received prior to February 1, 2018. See ID 00069 for projects electing to use Addendum bm of ASHRAE 90.1-2013 or Appendix G of ASHRAE 90.1-2016.
00058	08/31/2015	Performance Path Prescriptive Path T&V Worksheets	Change	**Similar requirements in the Certified Homes Program**
				Issue: If alternatives or modifications have been made in the ENERGY STAR Certified Homes program through the revision process and they are applicable to requirements in the MFHR program, can those revisions be used in MFHR?
				Response/Resolution: In general, with pre-approval, all applicable changes in the ENERGY STAR Certified Homes program can be used in the ENERGY STAR MFHR program. For example, in Revision 08, the total UA calculation alternative was modified to align with IECC and allows the inclusion of fenestration. This would now be permitted in ENERGY STAR MFHR.

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00059	08/31/2015	Performance Path Prescriptive Path T&V Worksheets	Change	**Hot Water Pipe Insulation Thicknesses**
				Issue: Footnote a of Table 6.8.3 of ASHRAE 90.1-2007 allows for an alternate calculation to determine the specific minimum insulation thickness (T), based on conductivity (k) of the insulation being installed. Is that calculation acceptable to determine a minimum thickness for compliance with ENERGY STAR requirements?
				Response/Resolution: This approach would be acceptable, if the values for "t" are instead the values required by ENERGY STAR, 1" for pipes less than 1.5" in diameter and 1.5" for pipes 1.5" and greater. For example, if the insulation has a thermal conductivity (k) of 0.22, then the minimum thickness (T) would only be 0.68 inches, rather than 1 inch, for a pipe that is 1 inch in diameter.
00069	02/14/2017 Updated 12/15/2017	Performance Path	Change	**Meeting the Performance Target for projects using ASHRAE 90.1-2016 Appendix G or ASHRAE 90.1-2013 Appendix G with Addendum bm**
				Issue: For projects in states that have adopted Addendum bm of ASHRAE 90.1-2013, is the performance target 15% better than the Appendix G that includes Addendum bm or is it the original ASHRAE 90.1-2013 Appendix G? Can I use 90.1-2016 Appendix G instead? What about states under an older code? Can we still use the 20% or 25% Performance Target Options available with older code baselines?
				Response/Resolution: Projects in states that have adopted ASHRAE 90.1-2013, regardless of whether Addendum bm has been adopted by the state, can meet the ENERGY STAR MFHR Performance Target by demonstrating 15% savings above ASHRAE 90.1-2013 using the original Appendix G OR Appendix G from ASHRAE 90.1-2016. If the latter is used, projects must use the Simulation Guidelines_AppG2016 and Performance Path Calculator_AppG2016 to demonstrate compliance. Projects in any state may choose to use Appendix G from ASHRAE 90.1-2016 and the files above to meet their Performance Target, but only if using the 15% savings above code target. Projects that are using the 20% or 25% Performance Target Options are not able to use the 2016 approach.

ID	Log Date	Program Document	Classification	Issue/Resolution
00070	02/14/2017	Decision Tree	Change	**Eligibility Requirements: Criteria for dwelling units in four and five story buildings**
				Issue: Partners have indicated that the eligibility requirements for dwelling units in four and five story buildings sometimes cause unintended challenges. Currently, dwelling units with their own heating, cooling, and hot water systems are generally required to be certified using the ENERGY STAR certified homes program, while units with shared systems must be certified using the ENERGY STAR Multifamily High-Rise program. Because the requirements are substantially different between the two programs, and the decision to use individual or shared systems is sometimes beyond the control of the design team, including the system type in the eligibility requirements is causing the unintended challenges. Dwelling units with shared systems were initially excluded due to a lack of modeling guidance readily available to ENERGY STAR Raters. With the availability of *RESNET's Guidelines for Multifamily Energy Ratings*, modeling guidance is now available to address the most common central heating, cooling and hot water systems used in multifamily buildings.
				Response/Resolution: To address the challenges that partners are experiencing with the current eligibility requirements for multifamily buildings, the criteria related to heating, cooling, and hot water systems will be removed from the decision tree. This question in the flow chart will be removed: "Does each unit have its own heating, cooling and DHW?" and the bottom of the flow chart will include an "OR" after a "YES" answer to the question "Do the dwelling units occupy 80% or more of the occupiable[4] square footage of the building[5]?" indicating that the project may choose either Certified Homes of MFHR. Footnote 4 will be removed and a new footnote will be added that states: "Either certification program may be used for this building type. For a project with a central heating, cooling, or hot water system that chooses ENERGY STAR Certified Homes, use of the *RESNET's Guidelines for Multifamily Energy Ratings* for modeling the specified central system(s) is recommended."

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00073	12/15/2017	T&V Protocols	Change	**Sampling of Duct Leakage Testing of Central Exhaust systems**
				Issue: The current sampling protocol assumes all sections of all exhaust ductwork are available for testing at the same time and prior to sheetrock. Is there an alternative to the current sampling protocol for a building with ductwork of varying lengths and construction schedules, where not all sections are available for testing at the same time? Are ducts that are sealed with an aerosol-based sealant treated differently?
				Response/Resolution: The intent of sampling is to evaluate overall compliance with a requirement based on the performance of a sample. The sample selected for testing in the current protocol is based on the type and number fans. To better accommodate buildings where all fans and/or ductwork are not available for testing at the same time or use different sealing strategies, an alternative was developed to assess compliance. The alternative permits the sample selected for testing to be based on linear feet of ductwork, where a total of 20% must be tested. In this way, sections of ductwork can be tested as they are available, rather than waiting for an entire riser to be available. A riser diagram must be submitted during the As-Built Submittal that clearly identifies the portions of ductwork tested, to demonstrate that they were evenly distributed across as many risers as possible. Any failures during testing shall result in an additional 10% of ductwork to be tested. When calculating the 20%, ductwork selected for testing must be sealed using the same process as the ductwork not selected for testing. Therefore, for projects using an aerosol-based sealant on only some risers, the results from the contractor can be used to demonstrate compliance for those risers, and 20% of the risers not using the aerosol-based sealant must be tested. Also see ID 00049 for more information on the metric.
00074	12/15/2017	Performance Path Prescriptive Path T&V Protocols	Change	**Requirements to meter retail utilities separately from residential-associated utilities**
				Issue: In mixed-use buildings with shared HVAC and water systems serving both retail and residential spaces, it can be cost-prohibitive to provide utility meters that meet the program requirements to separate the utilities.
				Response/Resolution: While still a recommendation to meter utilities for retail separate from the residential-associated spaces, this is no longer required.
00075	12/15/2017	Performance Path	Change	**Performance Target in California for projects permitted to Title 24-2016**
				Issue: Title 24 in California is an aggressive standard and achieving 15% savings beyond the 2016 version is difficult to achieve in a cost-effective manner. Is there a Title 24-2016 specific Performance Target?
				Response/Resolution: The ENERGY STAR MFHR Performance Target in California will be 10% TDV energy savings above Title 24-2016.

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00076	12/15/2017	Performance Path Prescriptive Path T&V Protocols	Change	**Kitchen exhaust ventilation rates for high-performance MFHR homes/apartments**
				Issue: ASHRAE 62.2 continuous local exhaust rates for kitchens is 5 ACH which results in very high CFM, often 30-50% of the intermittent rates, yet runs continuously. Can the rates be reduced under certain circumstances?
				Response/Resolution: Certified Homes reduced this rate to 25 CFM for homes that are PHIUS+ or PHI certified OR that provide both whole-house ventilation and local mechanical kitchen exhaust using a balanced system, and have a Rater-verified whole-building infiltration rate ≤ 0.05 CFM50 per sq. ft. of Enclosure Area, and a Rater-verified dwelling unit compartmentalization rate ≤ 0.30 CFM50 per sq. ft. of Enclosure Area. This reduction will also be extended to units participating in the ENERGY STAR MFHR program.
00004	12/21/2011 Updated 08/01/2017	Performance Path Prescriptive Path T&V Worksheets	Clarification	**NEMA Premium Motors Prerequisite**
				Issue: Are fire pumps and booster pumps that don't run except in rare occasions, still subject to the NEMA Premium motor prerequisite? What about other non-space heating/cooling or DHW pump motors, like for trash compactors, that have minimal run times?
				Response/Resolution: These pumps are not subject to this prerequisite.
00005	12/21/2011	T&V Protocols, 3.4	Clarification	**25 year Window Sealant**
				Issue: We are unable to find a 25 year window sealant, only 20 years.
				Response/Resolution: The intent of the Performance Specification Criteria for Protocol 3.4 was that the sealant must be compatible with the adjacent surfaces and its durability rating be at least as long as the warranty on the window (this second part was meant to be guidance). Therefore, if manufacturers in your area do not carry 25-year sealant, 20-year sealant is acceptable. Please retain documentation that the sealant is compatible with the adjacent surfaces and lists its durability rating. This was clarified in Revision 01 of the T&V Protocols.
00006	12/21/2011	Performance Path Prescriptive Path	Clarification	**Senior Housing Lighting Power Densities**
				Issue: Can common spaces in senior housing exceed the lighting power densities by more than 20% in order to provide greater illumination?

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				Response/Resolution: Modifications to the LPD and illumination requirements for this building type is permitted in both the Performance and Prescriptive Paths. Minimum illumination requirements can reference IESNA's 2007 Lighting and the Visual Environment for Senior Living, rather than IESNA Lighting Handbook footcandle requirements listed in the Path documents. In the Performance Path, proposed/installed lighting power densities are permitted to exceed 90.1-2007 by more than 20% if needed to meet the higher illumination levels recommended. In the ASHRAE baseline energy model, LPDs can match the LPDs needed to minimally meet these higher illumination requirements. Any excess lighting must still be modeled as an energy penalty. In the Prescriptive Path, rather than following ASHRAE 90.1-2010 LPDs, a project is permitted to exceed those LPDs if needed to meet the higher illumination recommendations. Illumination in excess of the minimum recommendations would require the use of the Performance Path. This was clarified in Revision 01 of the MFHR Program.
00007	1/21/2012	Performance Path Prescriptive Path	Clarification	**ENERGY STAR Exterior lighting Requirement**
				Issue: We are unable to find ENERGY STAR certified pole mounted parking lot fixtures or ENERGY STAR certified LEDs or CFLs that can be installed in them. We can't meet the 80% requirement since these are not readily available. Can we install non-ENERGY STAR certified LEDs or non-ENERGY STAR certified CFLs instead?
				Response/Resolution: Please see ID 00047. As an alternative to 80% of installed light fixtures being ENERGY STAR certified or having ENERGY STAR certified lamps, 100% of installed light fixtures may have high-efficacy lamps installed instead, as defined by 2012 IECC.
00008	2/21/2012 Updated 11/15/2014 & 12/15/2017	Performance Path Prescriptive Path Simulation Guidelines	Clarification	**Heaters in Garages/Sidewalks for Safety (ice-melt)**
				Issue: Can garages/sidewalks be specified with heaters if needed for ice-melt purposes? If the sidewalk is used by retail and residents, can energy penalty be reduced by pro-rating?
				Response/Resolution: The prerequisites in both paths state "Radiant (ie. infrared) heating, either wall or ceiling-mounted, or heating within the garage floor (or sidewalks) may be used to prevent ice formation on the ground as a safety feature only and must comply with ASHRAE 90.1-2007 Section 6.4.3.8," which specifies the temperature set-points that must be verified in the field. If following the Performance Path, the Baseline energy model cannot include any energy costs for snow or ice-melt systems. The Proposed and As-Built energy models must include the energy costs associated with these systems. This was clarified in Revision 01 of the MFHR Program. Although on-site power generation may not be used to meet the Performance Target, it may be used to offset this energy penalty. For systems serving sidewalks of mixed-use buildings, that benefit both the multifamily residents and retail customers, the energy penalty can be reduced by pro-rating the amount based on the residential and commercial square footage. Also see ID 00065 for other garage heating systems.

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00014	12/21/2011 Updated 8/31/2015 & 8/31/2016	Simulation Guidelines Performance Path	Clarification	**Modeling of retail spaces and applicable prerequisites**
				Issue: Our building has 2 small retail spaces on the ground floor. Our interpretation of the Simulation Guidelines is that these spaces may be included or excluded from the energy model. We have chosen to exclude them and wanted to confirm this conforms with the criteria.
				Response/Resolution: This is correct, you may choose to include or exclude that area from your model. If excluded, however, the building is not eligible for the "Designed to Earn the ENERGY STAR" credential, unless energy use is calculated for that space. If included, the prerequisites relevant to the energy savings do apply. Also see ID 00064.
00017	12/21/2011 Updated 8/31/2015 & 12/15/2017	Performance Path Prescriptive Path T&V Protocols T&V Worksheets	Clarification	**Central DHW Mixing Valve Prerequisite**
				Issue: What types of mixing valves are permitted? What is a "self-contained" mixing valve? Are mixing valves required?
				Response/Resolution: The prerequisite states that "self-contained or electronic mixing valves shall be used to control hot water temperature for central domestic hot water heating systems." Mixing valves that do not automatically adjust based on water temperature are not permitted for central domestic hot water systems. "Self-contained" mixing valves are generally an internal "thermostatic" valve that automatically adjusts based on temperature. Designs without a mixing valve specified are not subject to this requirement.
00034	5/4/2012 Updated 8/31/2016	Performance Path Prescriptive Path	Clarification	**ENERGY STAR certified clothes washers**
				Issue: Are clothes washers that are part of a combined washer/dryer unit, exempt from the ENERGY STAR requirement? What about leased washers?
				Response/Resolution: Combination units are currently not able to earn an ENERGY STAR label, and are therefore exempt from meeting this requirement. Leased washers are also exempt. When possible, EPA recommends selecting units that meet the current key criteria for ENERGY STAR clothes washers. http://www.energystar.gov/index.cfm?c=clotheswash.pr_crit_clothes_washers

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00036	7/17/2012	T&V Protocols, 8.2	Clarification	**Duct Leakage Testing of Central Exhaust systems**
				Issue: Both Path documents require duct leakage testing of central "exhaust" systems. The T&V Protocols, 8.2, indicate central "ventilation" systems. Which document is correct? We have a central ERV system and want to know if the leakage metric applies to both the supply side and the exhaust side ductwork, or just the exhaust side? When can we test?
				Response/Resolution: The leakage metric and testing requirement was developed for the exhaust side of these central ventilation systems only, and therefore do not apply to the supply side. However, duct "sealing" requirements apply to both. Testing for compliance with this duct leakage metric can be conducted while ductwork is still visible, to enable additional duct sealing measures if non-compliant. Flow measurements, however, cannot be verified until interior drywall and grilles are installed. This was clarified in Revision 01 of the MFHR Program. Also see ID 00049.
00037	7/17/2012 Updated 8/31/2016	T&V Protocols, 5.3 T&V Protocols, 5.4	Clarification	**Duct Leakage Testing of Forced-Air Space Conditioning systems**
				Issue: We test duct leakage of central exhaust systems before the building is completed. When do we test duct leakage of forced-air space conditioning systems? Does this testing requirement and leakage metric (8CFM25/100ft^2) apply to systems serving common areas or just dwelling units? What about systems like mini-splits, which have minimal ductwork, or systems without ducted returns? Can we apply RESNET's Guidelines for Multifamily Ratings to those?
				Response/Resolution: Unlike duct leakage testing of central exhaust systems, duct leakage testing of forced-air space conditioning systems occurs after the building is completed and interior drywall, supply/return registers, and air handlers are installed. EPA is currently reviewing a definition for "ducted" systems that would address mini-splits. See ID 00045. Currently, the non-ducted return air pathway must be included in the pressurized testing of the distribution system. The only exception is if the following 3 criteria are met: 1-*If a larger opening than manufacturer's minimum return grille free area is installed;* *2-The pressure difference between the mechanical closet and the living space <= 5 Pa with the air handler running at high speed(increased from 3Pa to align with ESCH);* *3-There is an induced pressure difference between the mechanical closet and the conditioned space of less than 10% of the induced pressure difference with respect to outside.* If all are met, the duct leakage tester may be attached to the air handler. Ducted forced-air systems serving common areas or that provide forced-air to more than one unit are not subject to this testing requirement, but must be properly sealed and visually inspected. Also see ID 00052 and 00061.

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00046	8/21/2012 Updated 8/31/2016 & 02/14/2017	Eligibility Flow Chart	Clarification	**Eligibility Requirements - Buildings with partial floors**
				Issue: Our 3-story building has a partial fourth floor. Is there a requirement for occupiable area or % of the 4th floor for it to be considered a "story"?
				Response / Resolution: If the occupiable space of the partial floor is 20% of the level below (or above) or greater, then it would be considered a story. If it is less than 20%, the partial floor would not be considered a story per EPA's ENERGY STAR Multifamily New Construction Program Decision Tree. Partial floors that meet the definition of a mezzanine or loft, as defined by the 2012 IRC, do not count as a story. The 2012 IRC defines a mezzanine or loft as an intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located.
00051	08/21/2013 Updated 08/31/2016	Performance Path Prescriptive Path	Clarification	**Continuous Insulation Prerequisite**
				Issue: There are two prerequisites related to 'continuous' insulation. Can you please define what that means and what details are exempt?
				Response/Resolution: The first relevant prerequisite requires that "All roof, wall, floor, and slab insulation shall achieve RESNET-defined Grade I installation or, alternatively, Grade II for surfaces with continuous insulation." This was revised in Revision 02 to align with ESv3 Rev07, which clarified that the "surface contains a layer of continuous, air-impermeable insulation". The second relevant prerequisite was revised in Revision 02 to establish the minimum R-value that qualifies as "insulation" and clarifies the requirement is by wall assembly, rather than building structure, to accommodate buildings with multiple wall types. "For steel-framed and metal building walls, continuous exterior insulation (≥R-3) is required on above grade walls. For mass or masonry walls with metal framing, continuous interior or exterior insulation (≥R-3) is required on above grade walls." Projected balconies are currently exempt from this requirement. Shelf angles are also exempt and the Path documents provide guidance on how to de-rate the assembly U-value accordingly. "Continuous", as used in these prerequisites, refers to insulation that is not interrupted by steel or metal wall framing, in order to reduce thermal bridging. Projects may transition from interior to exterior "continuous" insulation, although the insulation is not physically continuous at that transition.

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00052	08/21/2013 Updated 8/15/2015	T&V Protocols, 8.2	Clarification	**Measuring Ventilation and Duct Performance**
				Issue: What systems are required to be tested for duct leakage and for ventilation flow rates? Can natural ventilation be used for common spaces?
				Response/Resolution: The T&V Protocols and Worksheets have been revised to provide better clarity on inspections and testing. In general, all heating, cooling, DHW and ventilation systems (central, distributed, common space and apartment) are subject to verification of equipment efficiency and duct sealing. Only in-unit forced-air systems and ventilation risers for central exhaust systems serving apartments are required to be tested for duct leakage. In-unit duct systems must be tested even if the associated heating or cooling system is deemed central. See ID 00045, 00037, and ID 00442 of the ENERGY STAR Certified Homes Policy Record. All systems must be tested for ventilation performance (ie. flow rates at the register), although sampling may be applied as described in the Protocols. In general, a sample of apartment bathrooms and kitchens must be tested for flow rates, as well as the system providing whole-unit ventilation, if separate from the exhaust system. Kitchens can be exempt from testing if they meet prescriptive duct requirements. Systems supplying the corridors or exhausting from common spaces must be tested for flow rates. Common spaces that meet Section 5.1.1 of ASHRAE 62.1 can use “natural” ventilation.
00054	2/18/2014	Prescriptive Path	Clarification	**Equipment not listed in Table 1 of the Prescriptive Path or 189.1-2009**
				Issue: Where do we find the minimum efficiency for equipment that are not listed in Prescriptive Path Table 1 or ASHRAE 189.1-2009 Appendix C, such as Single-Package Vertical Air Conditioners, Single-Package Vertical Heat Pumps or “ground loop” heat pumps?
				Response/Resolution: The ENERGY STAR Prescriptive Path, Table 1, lists the minimum efficiencies for some, but not all, HVAC equipment that is specified in multifamily high-rise buildings. For equipment not listed in Table 1, please see ASHRAE 189.1-2009, Appendix C. For equipment not listed in ASHRAE 189.1-2009, you may meet the efficiencies for those equipment as listed in ASHRAE 90.1-2010, Tables 6.8.1A-K or 189.1-2011, Appendix C. The minimum efficiency for Ground Water Heat Pumps (GWHP) or Ground Loop Heat Pumps (GLHP) may alternatively comply with Tier 2 of the ENERGY STAR Key Product criteria. Note: The “water-source” heat pump listed in Table 1 refers to a closed loop water-to-air heat pump that is part of a circulation loop where heat is provided by a boiler, not the ground or groundwater. In the AHRI directory, this is typically a “Water Loop Heat Pump” (WLHP).

ID	Log Date	Program Document	Classification	Issue/Resolution
00055	2/18/2014 Updated 11/15/2014 & 8/31/2016	Performance Path Prescriptive Path	Clarification	**Evaluating illumination using alternative software or measurements**
				Issue: Can my lighting designer affirm that light levels (footcandles) are compliant with IESNA using other software? Should the "nominal" or "delivered" lumens be used in these calculations? Can measurements of illumination be used to meet this requirement, rather than calculations?
				Response/Resolution: The Performance Path calculator offers simple calculations to estimate the illumination provided by the fixtures specified. During design, if the Performance Path calculator indicates that spaces on the In-Unit Lighting worksheet or the Interior Lighting worksheet are not meeting the recommended footcandles, the team can proceed with the design as-is, and instead show compliance in the As-Built Submittal if light meter readings taken once the building is occupied indicate that the required footcandles are achieved. If the lighting designer responsible for the design affirms that the design meets the required illumination using alternative software, that is acceptable. The Licensed Professional must still test a sample of space types for footcandle compliance at the end of construction. The light meter readings can be reported within the Performance Path calculator, adjacent to the spaces being flagged as having insufficient illumination. "Delivered" lumens should be used in calculations rather than "nominal". Note: Average weighted footcandles have been reduced from 16 to 10 within dwelling units.
00057	11/15/2014	Performance Path Prescriptive Path T&V Worksheets	Clarification	**ENERGY STAR Certified Appliance verification**
				Issue: The ENERGY STAR criteria for appliances has changed since they were specified for our project. Will the installed units meet the prerequisites?
				Response/Resolution: If the appliances were ENERGY STAR certified at the time of purchase, they will meet the prerequisite, even if they no longer meet the ENERGY STAR criteria at the time of inspection. Please retain documentation during the plan review that appliance model numbers were ENERGY STAR certified at that time.

ID	Log Date	Program Document	Classification	Issue/Resolution
00060	8/31/2015	Performance Path Prescriptive Path T&V Worksheets	Clarification	**Determining Ballast Power for Lighting Power Density calculations**
				Issue: Neither Appendix B of the Path documents nor the ASHRAE 90.1 User's Manual offer suggestions for power associated with the ballast or driver for LED fixtures. Rather than reviewing each LED fixture, is there a similar standard for ballast/driver power we can assume? Please also confirm that ballast power need not be added for lamps with integral ballasts or "self-ballasted" lamps, such as GU24 or Edison bases.
				Response/Resolution: For fixtures with LED lamps, that do not have integral ballasts, please add 5% of the rated LED lamp Wattage to account for the power consumed by the LED fixture ballast/driver. Your interpretation is correct for integral ballasts – the lamp Wattage generally includes the ballast power. A screw-based CFL listed as 13W would not require additional ballast power, however a 13 W pin-based CFL would. Appendix B offers the total input power for lamps without integral ballasts as an alternative to determining the ballast power for each fixture specified.
00062	8/31/2015	Performance Path Prescriptive Path T&V Worksheets	Clarification	**Determining Boiler Sizing when redundant boilers are specified**
				Issue: The prerequisite states: "Load sizing calculations must reflect the design. The installed capacity cannot exceed design by more than 20%, except when smaller sizes are not available." If specifying redundant boilers for safety/back-up, is that capacity required to be included?
				Response/Resolution: ENERGY STAR MFHR does not prohibit practices designed to ensure safety. If installed for emergency back-up, the Licensed Professional must confirm that controls are in place that prevent all installed boilers from performing at full capacity or that the additional boiler is offline except in the event of a failure of the primary boiler(s).
00063	8/31/2016	Photo Template	Clarification	**Waiver from Photo Template for MPP Participants**
				Issue: I am serving as the Licensed Professional for a new project. While my firm, as a NYSERDA MPP Partner, has certified 3 buildings, I was not personally involved. To be eligible for the Photo Template waiver, should the Licensed Professional be someone who directly participated in the certification of those 3 buildings? Or can it be any Licensed Professional in our firm? How do we demonstrate that we were the MPP Partner on 3 certified buildings?
				Response/Resolution: A Licensed Professional can use a combination of photo templates from the national program and MPP to meet the 3 Photo Template waiver threshold. For a Licensed Professional to use Photo Templates submitted to NYSERDA's MPP to count towards the Photo Template waiver, they must submit to EPA the Photo Templates from the certified projects that they supported through MPP, and a letter from NYSERDA or their Program Implementer indicating that the Licensed Professional was directly involved on those projects.

ID	Log Date	Program Document	Classification	Issue/Resolution
00064	8/31/2016	Simulation Guidelines	Clarification	**Residential Parking garages**
				Issue: If a multifamily building has a provision for resident parking, when do the ENERGY STAR MFHR prerequisites apply? Does it matter who pays the bills for the parking lot/garage or what systems the bills account for (ie. lighting, ventilation, heat trace)? Are there situations where a parking structure intended for use by the residents of the building, is not subject to the ENERGY STAR MFHR prerequisites? If yes, is the energy use of that structure then required to be part of the energy model?
				Response/Resolution: ENERGY STAR MFHR prerequisites apply to all parking structures available to residents including, but not limited to, enclosed, open, and below-grade garages, covered and uncovered parking lots, structures that are separate from the building but adjacent, structures not owned by the developer, structures that are separately permitted, structures that provide parking for both residents and retail customers, and structures that have a utility meter separate from building meter, <u>except</u> where the case can be made that the cost of the energy use of the parking structure is not the responsibility of the MFHR Developer, Building Owner or Property Manager. Prerequisites therefore do <u>not</u> apply to these following situations: • If parking is owned and operated by another entity, unaffiliated with the developer/owner/manager, with separate utility meters to cover the garage lighting and HVAC energy consumption • If parking provided is solely for retail customers AND energy use is on the commercial meter. For all other cases, energy use associated with the entire parking structure must be included in the energy model in the Performance Path, and all prerequisites followed. Also see ID 00065. All Prescriptive Path requirements would also apply.
00067	8/31/2016	Performance Path Prescriptive Path	Clarification	**ASHRAE 62.2 Alternative Ventilation sections**
				Issue: Can the Alternative Ventilation sections in ASHRAE 62.2-2007 be used?
				Resolution: Yes. While section 4.1.2 and 5.1 of ASHRAE 62.2 allow alternative ventilation methods to provide the required rates if approved by the Licensed Professional, EPA, as the authority having jurisdiction, reserves the right to review and approve the proposed alternative design strategy. If the proposed alternative does not meet the intent of the ENERGY STAR requirements, EPA may not approve it for compliance with the MFHR program.

ID	Log Date	Program Document	Classification	Issue/Resolution
00068	8/31/2016	Eligibility Flow Chart	Clarification	**Program eligibility for buildings with solar systems and central DHW**
				Issue: For a 4 story project with central domestic hot water (DHW) and a solar photovoltaic (PV) system, does the electricity generated qualify as "solar energy", as referred to in Footnote 4 of the Decision Tree, or is this exemption limited to solar thermal systems? How is the 50% threshold calculated?
				Resolution: For dwelling units in multifamily buildings with 4 or 5 stories above-grade, if they do not have their own heating, cooling, and hot water systems, separate from other units, they are eligible for the MFHR program. However, an exemption is provided in Footnote 4 for central domestic hot water systems if solar energy provides ≥ 50% of the domestic hot water needs for the residential units. The "solar energy" referred to in Footnote 4 can either be the annual electricity (kWh converted to MMBTU) generated by solar photovoltaic panels or the annual solar energy from solar thermal panels (MMBTU). To assess compliance with the 50% threshold, first determine the amount of energy (MMBTU) needed to meet the domestic hot water demand of the residential units. If ≥ 50% of this annual demand is met by the solar system chosen above, then the threshold has been met.
00072	08/01/2017	Performance Path Prescriptive Path T&V Worksheets	Clarification	**Mandatory Provisions of ASHRAE 90.1-2007**
				Issue: Where the ENERGY STAR MFHR Program requires compliance with the Mandatory Provisions of ASHRAE 90.1-2007, Sections 5.4, 6.4, 7.4 and 9.4, can the corresponding sections in a more current version of the ASHRAE 90.1 standard be used? Also, is the more current version <u>required</u> to be used for this prerequisite if the Performance Target is based on a more current version?
				Response/Resolution: To meet the program prerequisites related to the ASHRAE Mandatory Provisions, any project may choose to comply with the Mandatory Provisions in a more current version of ASHRAE 90.1, rather than 90.1-2007. Even if a project's Performance Target is based on a more current version of ASHRAE 90.1, it is not required that they also meet the Mandatory Provisions of the more current version; they may still comply with the program prerequisites by following ASHRAE 90.1-2007.
00009	12/21/2011	Performance Path Prescriptive Path T&V Worksheets	Comment	**Piping Insulation Prerequisite**
				Issue: Does the piping insulation apply to refrigerant piping or just to hydronic heating and cooling piping?
				Response/Resolution: Per ASHRAE 90.1-2007, Table 6.8.3, this insulation also applies to refrigerant piping. It also applies to domestic <u>hot</u> water (as defined in Section 7.4.3 of ASHRAE 90.1-2007). This was clarified in Revision 01 of the MFHR Program.

ID	Log Date	Program Document	Classification	Issue/Resolution
00010	12/21/2011	Performance Path Prescriptive Path T&V Worksheets	Comment	**Motorized Outside Air Damper Prerequisite**
				Issue: Are motorized dampers required on exhaust ventilation outlets? What about supply air ducted to returns of air handlers?
				Response/Resolution: Please refer to ASHRAE 90.1-2007 Section 6.4.3.4 to determine whether your ventilation system requires a motorized damper or if a gravity damper is acceptable. Continuously running ventilation is not subject to either damper, as they are always in use. (Version 1.0 of the T&V Worksheets indicated that these dampers must be located on an exterior wall. That requirement was removed in Version 1.1.) Although a motorized damper may not be required in your design, the ductwork is subject to duct leakage testing, so the ductwork needs to be temporarily sealed and pressurized (sealing the intake duct may be difficult in a multifamily high rise building).
00011	12/21/2011	T&V Protocols	Comment	**Blower Door Testing Method**
				Issue: When conducting the blower door test, should continuously running exhaust fans be turned off? Should the duct connection to the exterior be sealed?
				Response/Resolution: EPA follows RESNET procedures for blower door testing. Chapter 8 of the RESNET Standards states that "continuously operating ventilation systems shall be turned off and the air openings sealed, preferably at the exterior terminations." Please also see ID 00061.
00012	12/21/2011	Simulation Guidelines Performance Path	Comment	**Corridor Ventilation**
				Issue: We have a central corridor on each floor that is served by a 100% outside air system that is used to heat and cool the corridors as well as to pressurize the building. The amount of outside air exceeds the minimum criteria of ASHRAE 62.1 and is included in the Energy Model as an energy penalty. Is this permitted?
				Response/Resolution: Yes, when following the Performance Path you can exceed the minimum ventilation requirements recommended by ASHRAE, but the baseline energy model cannot exceed those rates by more than 50%.
00013	12/21/2011	Performance Path Prescriptive Path T&V Protocols, 3.1 Simulation Guidelines	Comment	**Continuous Insulation Prerequisite**
				Issue: Does the continuous insulation requirement apply to window walls?
				Response/Resolution: Yes, the non-vision glazing areas of the window wall system are treated as opaque walls per ASHRAE and continuous insulation must be installed to reduce thermal bridging. In addition, these non-vision glazing areas must be treated as opaque walls (not fenestration) when calculating window-to-wall ratios or determining minimum Prescriptive Path U-values. This was clarified in Revision 01 of the MFHR Program.

ID	Log Date	Program Document	Classification	Issue/Resolution
00015	12/21/2011	Performance Path Prescriptive Path	Comment	**Exhaust-only strategy**
				Issue: Does an exhaust only ventilation strategy meet the MFHR prerequisites? Can the same fan be used to meet local exhaust (Section 5) and whole-house (Section 4) rates?
				Response/Resolution: Dedicated supply air is not a requirement under Version 1.0, so exhaust-only strategies are acceptable. If using the same exhaust fan, the 50% over-ventilation limit in the Prescriptive Path is evaluated on the higher of the two rates. For example, if the bath fan is used for local and whole-house, and whole-house requires 33 CFM but local is 20 CFM, 33 CFMx150% would be permitted.
00016	12/21/2011 Updated 2/18/2014 & 8/31/2016	Performance Path Prescriptive Path	Comment	**Kitchen exhaust fans and range hoods**
				Issue: Do kitchen range hoods or microwaves that provide local exhaust need to be ENERGY STAR certified? Do the kitchen exhaust fans and hoods need to be vented to the exterior? Do they need to be in the kitchen? Does the light bulb need to meet the In-Unit lighting requirements?
				Response/Resolution: The range hood does not need to be ENERGY STAR certified, but all kitchen exhaust systems do need to be vented to the exterior and located within the kitchen. If ENERGY STAR certified, and following the Performance Path, you can take credit in the energy model for the range hood. If the range hood provides lighting, the light bulb must be included when evaluating the 80% ENERGY STAR or 100% high-efficacy requirements, but is not included in the calculations for lighting power density.
00018	12/21/2011 Updated 8/31/2016	Performance Path Prescriptive Path T&V Worksheets	Comment	**Low-flow rates for faucets and showerheads**
				Issue: My faucet aerator lists different GPMs for different pressures. Which one should I use to show compliance with the Prerequisite?
				Response/Resolution: For faucets and showerheads, use the GPM that is associated with 80 psi in the energy model and/or to meet program requirements. If specifying a WaterSense labeled faucet or aerator rated at 60 psi, not 80 psi, adjust the Baseline GPM to 2.2 in the energy model. Depending on actual water pressure, actual flow rates may be lower or higher, but measured flow rates are not used as the criteria in Version 1.0 of the MFHR Program. This was clarified in Revision 01 of the MFHR Program. If unable to find a kitchen faucet that is rated at less than 2.0 gpm at 80 psi, you can specify one that uses a WaterSense certified aerator or one that is less than 1.5 gpm at 60 psi.
00019	12/21/2011 Updated 2/18/2014	Simulation Guidelines Performance Path Prescriptive Path	Comment	**Apartment Balcony Lighting**
				Issue: In terms of requirements, are lighting fixtures on apartment balconies considered part of the apartment or exterior?
				Response/Resolution: Balcony lighting is part of the exterior, but can be modeled using the same schedule as the apartment and is not required to have a photosensor or timer if the lighting is controlled by the tenant. If the lighting is controlled by the building, it must have a photosensor or timer to prevent continuous operation. The lighting allowances are determined by ASHRAE 90.1 requirements for “other doors” or “building façade” lighting.

ID	Log Date	Program Document	Classification	Issue/Resolution
00020	12/21/2011	T&V Protocols	Comment	**Sampling protocol**
				Issue: We have a 100 unit MFHR building. I interpret the sampling to mean that I must test 7 in a row that pass before I can begin sampling. If those first 7 pass, I can just test 1 in 7. So, the least number of units I would need to test is 7+14, 21. Is that correct?
				Response/Resolution: Yes, that is correct. Please keep in mind that ANY unit tested that fails, must be brought into compliance. The group of tested units must also be representative of the units in the building (not all tested units can be interior units or of the same floorplan or on the same floor).
00021	12/21/2011 Updated 8/31/2015	Performance Path Prescriptive Path	Comment	**Electric Resistance Heating**
				Issue: When is electric resistance heating permitted and when is it not?
				Response/Resolution: First, this only applies to space heating, not water heating. In the Prescriptive Path, electric resistance space heating is not permitted in ANY space, with the exception of heat pumps in certain climates, in which case it is permitted as the auxiliary heating source if a thermostat with adaptive recovery is installed. In the Performance Path, it is permitted. If the space is heated-only, the Baseline HVAC system for that space can be a warm-air furnace, as described in Section 3.8.1b of the Simulation Guidelines.
00022	12/21/2011	Performance Path Prescriptive Path	Comment	**Load Calculation Software**
				Issue: Is Trace 700 software considered a 'substantively equivalent procedure' as using software based on ACCA Manual J?
				Response/Resolution: Trace and HAP are software typically used for commercial load sizing, rather than for residential applications. In general, they will result in different loads than if using software approved for ACCA Manual J. If the assumptions in the commercial software can be adjusted to be residential in nature in terms of lighting, occupancy, and internal gains, then they would be deemed substantively equivalent.
00023	1/21/2012	Performance Path Simulation Guidelines	Comment	**Baseline wall construction in energy model**
				Issue: Our building is wood-framed construction but the Simulation Guidelines says to use the steel-frame wall assembly U-factor requirements for our climate zone in the Baseline energy model. Why is that?
				Response/Resolution: ASHRAE 90.1-2007 Appendix G has established a baseline that is based on a particular building type. Although it is not an apples-to-apples comparison, it is consistent with ASHRAE modeling procedure. In the Baseline model, you may use the U-factors in the Residential column for dwelling unit walls and you may use the U-factors in the Nonresidential column for all other exterior walls.

ID	Log Date	Program Document	Classification	Issue/Resolution
00024	1/21/2012 Updated: 2/18/2014	Performance Path Simulation Guidelines	Comment	**Modeling of ENERGY STAR appliances**
				Issue: Why are the electricity usage numbers for ENERGY STAR dishwashers, clothes washers, and refrigerators, fixed values? Why can't I model the actual energy use of the model that's installed?
				Response/Resolution: Using exact consumption numbers required more verification and you were also forced to modify the baseline consumption (making the baseline a moving target). By assigning one fixed value, the Baseline is fixed and verification only involves confirming an ENERGY STAR label, rather than looking up the model numbers and extrapolating by unit and model. The rated energy use for the installed appliance(s) as reported on the ENERGY STAR website may be used if the Baseline appliance is updated with the energy use for the equivalent appliance meeting the Federal Standards.
00025	1/21/2012	Prescriptive Path	Comment	**Slab Insulation Requirements**
				Issue: Do the requirements for "Slab Insulation" in the Prescriptive Path apply to below grade slabs?
				Response/Resolution: This requirement applies to slab-on-grade assemblies only. Per ASHRAE, these are defined as being in "contact with the ground and that is either above grade or is less than or equal to 24 in. below the final elevation of the nearest exterior grade."
00026	1/21/2012	Performance Path Prescriptive Path	Comment	**Exit Signs**
				Issue: The prerequisites require battery backup in the exit signs. We have powered all of the exit signs through the emergency power system, so in the event of a power outage, the exit signs will be powered off of the emergency generator. Are battery backups still required?
				Response/Resolution: If the scenario you described is acceptable per local code, then it would be accepted as meeting the intent of program requirements.
00027	1/21/2012	Performance Path Prescriptive Path	Comment	**Determining Lighting Power Allowance**
				Issue: In the Performance Path, total specified lighting power for the combined common (non-apartment) spaces should not exceed ASHRAE 90.1-2007 allowances for those combined spaces by more than 20%. In the Prescriptive Path, they can't exceed 90.1-2010. Can we use the building area method or space-by-space method when doing this calculation?
				Response/Resolution: Both the building area or space-by-space methods may be used to determine lighting power. If following the Performance Path and using the building area method, you cannot exceed 0.7 W/sf (per ASHRAE 90.1-2007 Table 9.5.1) by more than 20%. If following the Prescriptive Path and using the building area method, you cannot exceed 0.6 W/SF (per ASHRAE 90.1-2010 Table 9.5.1.)

ID	Log Date	Program Document	Classification	Issue/Resolution
00028	1/31/2012	Performance Path Simulation Guidelines	Comment	**Modeling of multiple buildings in the same project**
				Issue: We have a project that is proposing to build 3 buildings all next to each other that are all served by the same central plant for heating and cooling. Two of the buildings are connected via an exterior walkway on each floor. All 3 buildings are eligible for the new high rise program per the EPA flowchart. Could we model all three buildings under one energy model and submit one Proposed and one As-Built building submittal for the entire project? Or would we have to model each building separately and submit individual submittals to EPA for each building?
				Response/Resolution: Either approach would be acceptable to EPA. If all three buildings met the program requirements, EPA would still consider the units in each individual building as being ENERGY STAR certified.
00029	1/31/2012	Eligibility Flow Chart	Comment	**Assisted living or supportive housing buildings**
				Issue: Are assisted living or supportive housing buildings eligible?
				Response/Resolution: Visit this website for space type definitions that make a building eligible for the ENERGY STAR through Portfolio Manager. The MFHR program accepts residential buildings that are not already eligible for the ENERGY STAR through other programs. If they are not eligible through other programs, they are likely eligible for MFHR. For example, independent senior living and group homes are typically eligible for the MFHR program.
00030	1/31/2012	Prescriptive Path	Comment	**Exterior and interior wall insulation requirements**
				Issue: Tables 2 and 3 of the Prescriptive Path list both a nominal R-value and maximum U-value. Do both of those requirements need to be met or can you select one approach over the other? Also, if we can meet the Prescriptive U-value entirely using interior insulation, do we have to also provide exterior insulation?
				Response/Resolution: Either the R value or the U-value requirements in those Prescriptive Path envelope Tables must be followed; not both. If following R-value, some R-value requirements suggest a combination of interior and exterior insulation. Also, for certain buildings (ex. steel or metal-frame), there are continuous exterior insulation prerequisites to reduce thermal bridging. For those buildings, even if following the U-value approach, you would still need to provide exterior insulation. In addition, if interior insulation will not achieve Grade I, there are minimum R-values for that exterior insulation. A total building UA calculation, that includes fenestration, is acceptable for compliance with the envelope requirements in these Tables.

ID	Log Date	Program Document	Classification	Issue/Resolution
00032	5/4/2012	Project Application Submittal Validation form	Comment	**Submittals**
				Issue: It is clear that we will be submitting a Project Application, Submittal Validation form, and the T&V worksheets, but there is no mention of whether you require the drawing set to be included. Will you also be reviewing the drawings? Are there any associated review fee's to be paid when sending the submittal?
				Response/Resolution: There are no fees associated with the submittal to EPA and drawings are not reviewed, unless specifically requested after reviewing a submission.
00033	5/4/2012	Performance Path Prescriptive Path	Comment	**Plug-in Lighting**
				Issue: Can ENERGY STAR certified bulbs installed in plug-in light fixtures count toward the 80% requirement?
				Response/Resolution: Although recommended as a cost-effective energy-efficient measure in all light fixtures, only ENERGY STAR certified bulbs installed in hard-wired fixtures can meet this requirement.
00038	7/26/2012	T&V Workbook	Comment	**Testing & Verification Worksheets – Program Requirements**
				Issue: Our Architect is reviewing the T&V Workbook and has noticed there are some requirements in the worksheets that are not identified in the Program Prerequisites or in the T&V Protocol document. Are these additional requirements? Do we need to comply with all items of the T&V worksheet as well?
				Response/Resolution: There are no requirements in the T&V Worksheets that are not identified either in the Path documents or in the Testing and Verification Protocols. The T&V Worksheets were prepared with the intent of helping program participants with verification of the program requirements. Items listed in the T&V Worksheets are intended to be further clarification of what the Licensed Professional or their designated agents need to look for in order to verify compliance with the Program requirements. The T&V Worksheets use the terms, “must” or “shall” when referencing a Program requirement, but also uses the term “recommend” or “should” when referencing a best practice for achieving a Program requirement.

ID	Log Date	Program Document	Classification	Issue/Resolution
00039	7/26/2012	T&V Protocols	Comment	**Type of Testing Protocol**
				Issue: Is Third-Party Commissioning a requirement of the Program? What certification(s) are necessary for the commissioning agent?
				Response/Resolution: Third party commissioning is an option, but not a requirement, for a participating Developer partner to verify As-Built compliance. Although the designated Licensed Professional is not responsible for conducting the "commissioning" themselves, they must verify that the installed systems meet the program requirements. The EPA has not yet defined a certification requirement for inspectors (such as BPI MFBA or HERS), so Commissioning Agents are an option for participants who do not have the skill set to conduct the verification testing and inspections required. If the participating partner has the skill set to conduct such commissioning themselves, another party is not required. Except for a few systems, such as lighting and appliances, the installer should not be verifying his/her own work. For those exceptions, the Licensed Professional may submit a Statement of Substantial Completion (please refer to the T&V Protocols for details) to satisfy the verification requirements.
00040	7/26/2012	T&V Protocols	Comment	**Performance Specification Criteria: Contract Language**
				Issue: Is the "Contract Language" provided in the Testing & Verification Protocols a requirement of the program? Some of the language conflicts with our specification writer's protocol.
				Response/Resolution: Contract language is not requirement, but is provided as guidance for the participating partner as a way to verify program compliance at the design stage. Further, if this language, or a variation of it, is not included, the project may risk compliance of the related requirement during As-Built verification.
00041	7/26/3012	T&V Protocols	Comment	**Procedures and Documentation: DHW Sizing Calculations**
				Issue: In the DHW section of the T&V Protocols, it states "the responsible party shall review the sizing calculations from the designer to confirm that the system meets the requirements." This is not stipulated in the Path documents. Is this a requirement?
				Response/Resolution: The first prerequisite of DHW systems states that the project must comply with ASRHAE 90.1 2007 Section 7.4. Section 7.4.1 requires load calculations for sizing equipment. The participating partner is responsible to verify this procedure was used for sizing the DHW equipment.

ID	Log Date	Program Document	Classification	Issue/Resolution
00042	7/26/2012	T&V Protocols	Comment	**Examples of Responsible Parties**
				Issue: How are project teams to interpret the list of Responsible Parties given with each T&V Protocol?
				Response/Resolution: All parties who are involved in the specification, installation, or verification for each component are considered responsible parties, as any one of these parties could impact the final installed item or equipment. The list is intended to identify typical responsible parties – it is not meant to be all inclusive or it may not be applicable to all projects.
00043	7/26/2012	Performance Path Prescriptive Path	Comment	**ENERGY STAR Appliance and ADA Compliance**
				Issue: Our project must provide a number of ADA compliant under-cabinet freezers / refrigerators. I've examined the list of ENERGY STAR certified freezers and could not identify any on the ENERGY STAR list that also meet ADA height requirements. The ENERGY STAR certified freezers listed are 34" tall or greater; to meet ADA requirements the counter must be at 34". Therefore, the available certified units will not fit under the ADA compliant counters at our project.
				Response/Resolution: As stated in footnote #1 of both the Performance and Prescriptive Path Notes, "where overlapping requirements conflict with a requirement of these ENERGY STAR guidelines, the conflicting requirement within these guidelines shall not be met." In this particular case, the ADA compliant freezers / refrigerators are exempt from the ENERGY STAR appliance prerequisite. However, not all ADA requirements will constitute a conflict with ENERGY STAR or WaterSense criteria.
00044	7/26/2012	T&V Protocols	Comment	**Ventilation & Infiltration – Total Air Leakage**
				Issue: Apartments shall be sealed to reduce air exchange between the apartment and outside as well as the apartment and other adjacent spaces. A maximum air leakage rate of 0.30 CFM50 per square feet of enclosure is allowed." 0.3 CFM50/SF is really extreme and almost unattainable. We work extremely hard on 700SF units to get them to between 500-600 CFM50 for units with adjoining apartments and this is very tough, with 0.3 CFM50/SF this would be 210. This seems extremely difficult and likely unattainable.
				Response / Resolution: The Total Air Leakage metric is 0.30 CFM50 per square feet of *enclosure* area. The calculation referred to above seems to use only the floor area. The enclosure area includes the floor area, the ceiling area, and the demising and exterior wall areas. A 700 SF unit should have a target CFM in the 600-700 CFM range when taking into account this additional area.

ID	Log Date	Program Document	Classification	Issue/Resolution
00053	8/31/2013	Partnership	Comment	**ENERGY STAR Developer Partner status**
				Issue: What does it mean to be an "active" ENERGY STAR Developer Partner?
				Response / Resolution: To maintain active status in the ENERGY STAR MFHR program, within any 12 month period the MFHR Developer Partner must be actively "designing" or "building" a project that is pursuing the ENERGY STAR or actively "benchmarking" a project that has earned the ENERGY STAR through the MFHR program. ▪ To be considered actively "designing" a project, the Developer Partner must have an approved ENERGY STAR MFHR Project Application on file with the EPA or its designated agent. A Developer Partner may become inactive if they fail to submit a Proposed Design Submittal within 3 years of the Project Application submittal date. ▪ To be considered actively "building" a project, the Developer Partner must have an approved Proposed Design Submittal on file with EPA or its designated agent for a building that has not yet been certified. ▪ To be considered actively "benchmarking" a project that has earned the ENERGY STAR, the project must have earned certification through the ENERGY STAR MFHR program, and the energy performance of the building is being measured and tracked in Portfolio Manager Note: If a Developer Partner is inactive, they must discontinue the use of the ENERGY STAR Partner Logo and will no longer have access to their My ENERGY STAR Account (MESA). Inactive Developer Partners may continue to use the ENERGY STAR Certification Mark to promote buildings that have earned the ENERGY STAR.
00031	1/31/2012	Eligibility Flow Chart	Issue under Review	**Definition of New Construction**
				Issue: To be eligible for the program, must a gut rehabilitation project include removing drywall and re-insulating?
				Response/Resolution: Significant gut rehabilitations are allowed to participate in this program if they are able to meet all program requirements. In general, it is unlikely that the envelope prerequisites can be met, without evaluating the quality of the insulation installation and achieving the required Grade. It is also unlikely that a building would be able to pass performance testing if envelope improvements are not a part of the scope. However, those buildings are not explicitly prevented from participating. ENERGY STAR is considering clarifying the eligibility language and definition of significant gut rehabilitation.

ID	Log Date	Program Document	Classification	Issue/Resolution
00045	7/30/2012	Performance Path Prescriptive Path	Issue under Review	**Heating and Cooling Distribution System Tightness**
				Issue: Our project uses VRF heat pumps in small studio apartments. There is one supply duct that is typically less than 10 feet in each apartment and a central return to the air handler. Are we required to test the total duct leakage for this small distribution system?
				Response/Resolution: Currently, there is no length of duct specified by ENERGY STAR MFHR at which duct leakage testing is or is not required. The ENERGY STAR Multifamily High-Rise team is currently reviewing relevant standards and is working to determine if setting a minimum duct length should be defined. RESNET's Guidelines for Multifamily Ratings does contain guidance on this issue on pg. 46, allowing a "Duct Leakage Total Exception" for systems with less than 10ft of total supply duct length. While MFHR works to determine a final policy on this matter, projects may use the "Duct Leakage Total Exception" as described in RESNET's Guidelines for Multifamily Ratings. Please see ID 00061 for additional details on using other components of these Guidelines in the MFHR Program.
00061	9/15/2015	Performance Path Prescriptive Path T&V Protocols	Issue under Review	**Use of RESNET's Guidelines for Multifamily Ratings**
				Issue: T&V Protocols often reference RESNET Standards. Although not currently a standard, are the testing and inspection procedures in the "RESNET Guidelines for Multifamily Ratings" permitted to be used in ENERGY STAR MFHR? Are they required, recommended or enforced?
				Response/Resolution: The ENERGY STAR Multifamily High Rise team is currently reviewing relevant guidance (RESNET's Guidelines for Multifamily Ratings and draft BSR/ RESNET Standard 380-20xx) and once they are adopted as formal standards, will establish a transition timeline related to enforcing them. In the interim, for MFHR projects, until a formal policy is developed, **with pre-approval**, guidance from either document may be referenced in submissions and applied.

ID	Log Date	Program Document	Classification	Issue/Resolution
00065	8/31/2016	Performance Path Simulation Guidelines	Issue under Review	**Garage Space Heating systems for comfort or for pipe freeze protection**
				Issue: While the current prerequisites allow heat trace and radiant heating systems in garages to be modeled as energy penalties, heating the garage or plenum for comfort or for pipe freeze protection has been explicitly prohibited. Is it possible to allow those systems to also be modeled as an energy penalty, rather than prohibiting them?
				Response/Resolution: Until a formal policy can be determined, these heating systems will be permitted in the Performance Path, if modeled as a penalty and if they do the following: - For dropped ceilings/plenums, confirm that the proposed insulation strategy is compliant with 5.8.1.5 and 5.8.1.8 of ASHRAE 90.1-2007. Insulation on suspended ceiling tiles would not be compliant. - For dropped ceilings/plenums, calculate and submit the R-value of the floor insulation of the units above the garage that would be needed to maintain the same floor temperature achieved by the plenum heaters. - For dropped ceilings/plenums, install insulation based on requirements for floors from ASHRAE 189.1-2014 or ASHRAE 90.1-2016, for climate zone 8. - For heated garages, install wall and floor insulation applicable to Semiheated spaces, as required in ASHRAE 189.1-2014 or ASHRAE 90.1-2016. - Install controls such that these heating systems do not operate when the outdoor air temperature is above 40F. - Install CO and NO2 sensors on garage ventilation systems. Similar to ID 00008, on-site power generation (ie. Solar PV, not CHP) may be used to offset this energy penalty.
00066	8/31/2016	Certification Process	Issue under Review	**LEED for Homes Multifamily Mid-Rise and ENERGY STAR MFHR**
				Issue: We are submitting an energy model to GBCI for review as well as to ENERGY STAR since it is also pursuing LEED certification. Is there a way to only submit the model once?
				Response/Resolution: If your projects are also pursuing LEED for Homes Multifamily Mid-Rise certification, and your team is interested in a coordinated modeling review process with GBCI, please contact us to discuss prior to submission of the Proposed Design Submittal or As-Built Submittal.

ID	Log Date	Program Document	Classification	Issue/Resolution
00071	8/1/2017	Certification Process	Issue under Review	**Review Process**
				Issue: Where do projects submit their reviews during the Multifamily High Rise Review Organization transition?
				Response/Resolution: EPA is transitioning to a new market-based verification process for multifamily high rise projects to earn the ENERGY STAR label. Under the new process, project teams work directly with an EPA-recognized organization for the review and approval of their submissions. All project applications submitted prior to August 1, 2017 will continue following the current EPA review process. Once at least one MRO is recognized, these projects may choose to complete their project review with EPA or transition their review to an MRO. All project applications received on or after August 1st are subject to the MRO transition process. Until one MRO is recognized, EPA will continue to review project submissions. Once an MRO is recognized: 1. All NEW project applications will be submitted to the new review organization(s). 2. For projects with Project Applications that have already been submitted to EPA, for the next submittal, the project may choose to submit their documentation to EPA or to an MRO. Any subsequent reviews will need to be completed by an MRO.